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May 11, 1994

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Via Hand-Delivery

William F. Caton, Acting Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: PR Docket No. 93-61: Report of Ex Parte Discussion

Dear Mr. Caton:

On Tuesday, May 10, 1994, representatives of the consumer electronics industry met with Ruth Milkman, Senior Legal Advisor to Chairman Hundt, to discuss the above-referenced proceeding. The industry representatives participating in the meeting were George Hanover and Barbara McLennan, Vice Presidents (for Engineering and for Government and Legal Affairs, respectively) of the Consumer Electronics Group of the Electronic Industries Association ("EIA/CEG"), and the undersigned.

For the most part, the information and perspectives presented during the meeting had already been placed in the public record via EIA/CEG's Comments, Reply Comments, Supplemental Comments, and an ex parte report. The principal points of the presentation are summarized in the attached outline (which has previously been submitted for the record). Attachment A. New information first discussed in this meeting is summarized below:

1. The enclosed pages from the just-released version of a mail order catalog were used to illustrate the variety and utility of Part 15 consumer products developed, as the Commission expressly encouraged, for use in the 902-928 MHz frequency band. Attachment B.

2. The enclosed excerpt from a pleading filed by a proponent of expanded Part 90 usage of the 902-928 MHz band was cited to illustrate the high probability of conflict between

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the Part 15 operations the Commission has already authorized and the Part 90 uses which are currently under consideration. Attachment C.

3. The enclosed slides from a tutorial given at the Commission on November 3, 1993, by representatives of IVHS America were cited to illustrate several points: (a) that "intelligent highway" services encompass a multiplicity of functions or capabilities, most of which are beyond the scope of the proposed Location and Monitoring Service (and even more of which are beyond the scope of the Automatic Vehicle Monitoring service currently being provided under interim authority), (b) that IVHS services will be able to be conducted in a variety of different frequency bands, and (c) that none of the IVHS services sought to be provided under the LMS rubric is capable of being provided only in the 902-928 MHz band. The EIA/CEG representatives stressed that EIA/CEG strongly supports the development of IVHS systems and does not believe that adoption of the LMS proposals for 902-928 MHz is at all necessary to promote IVHS objectives. Attachment D. It was further suggested that less hardship would be caused by placing IVHS operations in other bands than by disrupting existing Part 15 uses of 902-928 MHz.

Finally, the EIA/CEG representatives emphasized their belief that this proceeding presents, at bottom, a simple question of fairness. The existing Part 90 authority for operation in this band is only of an "interim" nature; no permanent authority for AVM-type operations in this band has yet been granted, and actual Part 90 usage is apparently low. In contrast, the Commission has already made a firm commitment to Part 15 operations in orders which were in no respect "interim," and those orders have led to widespread (and growing) use of 902-928 MHz Part 15 products. Moreover, the LMS proponents seek not only to make their interim authority permanent but also to expand the scope of that authority by a considerable margin. Most fundamentally, it is unfair to permit LMS proponents to secure the requested spectrum allocation by assuring the Commission that Part 15 uses will be undisturbed but also to allow them later to invoke Section 15.5 of the Commission's rules to require that Part 15 operations be terminated.

This letter and the extra copy of this letter are being transmitted in accordance with Section 1.1206(a) of the Commission's rules. Please let me know if you have any questions.

Sincerely,

James L. Casserly

Enclosure

cc: Ruth Milkman

The FCC Should Not Disrupt the Present or Future Use of the 900 MHz Frequency Band by Part 15 Products

The Commission should continue to promote use of the 900 MHz band by Part 15 products:

A series of FCC decisions demonstrated a firm commitment to expand opportunities for Part 15 devices to operate in the 902-928 MHz band ("900 MHz").

In response to this explicit encouragement, many companies have invested heavily in research and development for 900 MHz Part 15 products.

An extraordinary number and wide variety of innovative products have resulted from this investment. These products are winning wide acceptance in business and consumer markets.

Adoption of the proposed Part 90 rules for the Location and Monitoring Service ("LMS") would cause serious injury to Part 15 manufacturers, vendors, and consumers:

The rulemaking record demonstrates that adoption of the proposed Part 90 amendments would create intolerable problems of mutual interference.

The obligation of Part 15 products not to cause interference to Part 90 services would require that millions of consumers be prevented from using their Part 15 products.

The Commission does not ordinarily authorize new or expanded uses of a frequency band when harmful interference will result, and it should not depart from its past practice in this instance.

No party in the proceeding has demonstrated a justification for curtailing opportunities for Part 15 products to operate in the 900 MHz band:

The Commission has already made an affirmative determination that Part 15 innovation in this band is in the public interest, and the marketplace response to the Commission's encouragement has fully justified the Commission's expectations.

The record provides no foundation upon which the Commission could justify a decision to abandon its commitment to Part 15 operation in this band.

Even if future Part 15 products could properly be limited, curtailing the use of existing Part 15 products in the band would present insurmountable obstacles.

The Commission should withdraw the proposals in the Notice:

The threat of being forced to discontinue operation in the 900 MHz band is already causing adverse effects in the Part 15 marketplace.

Prompt action is needed to eliminate this uncertainty and to restore confidence that the Commission will continue to encourage innovation in Part 15 products.

The Commission should not adopt partial solutions that merely reduce or postpone adverse effects on Part 15 products. Approaches such as grandfathering Part 15 devices for three years, delaying expanded LMS operations, or concentrating LMS operations in a portion of the 902-928 MHz band all entail unacceptable consequences for Part 15 manufacturers, vendors, and users.

Plain paper. Pleasing price.

This Brother IntelliFAX 980M machine faxes and makes copies on ordinary plain paper (holds 200 sheets). New smoothing technology enhances image resolution. A 256K memory stores approximately 10 pages for "out of paper" reception. And an on-screen telephone index lets you scroll through 160 stored numbers for fast memory dialing.

Also saving you time are four preprogrammed cover pages (with space for 2 messages). Remote activation lets you transfer a fax call from any single-line extension. Many more features. Made in Japan. 18W". Includes print cartridge and one-year parts, 90-day labor warranty. Free !

Plain Paper Fax **$699.95** (25.00) #BQ660
Printing Cartridge **$ 29.95** (4.50) #BQ661

100% silk necktie helps Save the Children.

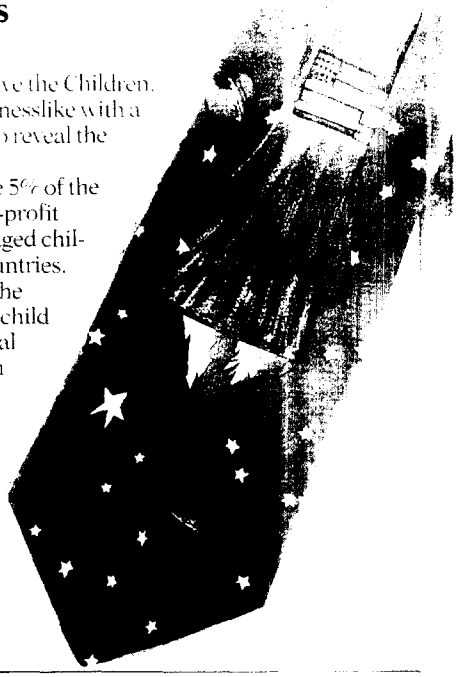
Designed by a child to help Save the Children, this colorful silk necktie looks businesslike with a subtle print until you open your jacket to reveal the colorful rocketship.

The manufacturer will donate 5% of the sales to Save the Children, the non-profit organization that helps disadvantaged children in the USA and 37 foreign countries.

This 100% silk tie is made in the USA, and features the name of the child artist on the back. It is one of several Save the Children ties on display in our stores. Free !

Save the Children Rocketship Tie **$29.95**
(5.00) #MR232

Your purchase benefits needy and underprivileged kids worldwide.



"The purpose of this letter is to advise you of the exc[illegible] received during the past year at your store near my [illegible] PA. In particular, I wish to commend your store mana[illegible] been enormously courteous, helpful, and knowledgeable regarding your products."

—R.L., Philadelphia, PA.

Spread Spectrum technology lets you walk the dog down your street without missing a call.

Crystal clear digital calls. Now over *six times* the range.

First, 900 MHz digital technology cut through the static that plagued ordinary cordless phones. Now, new military technology called Spread Spectrum transmission gives you crystal-clear digital conversations over distances six times that of a regular cordless phone. Range is *doubled* compared to some other 900 MHz phones.

Now you can relax in the garden, entertain friends in the guest cottage, even visit a neighbor, and never miss a call. Plus, there's a two-line model that's perfect for businesses and busy households.

By expanding the transmitting bandwidth *ten times*, more digital information can be sent. Analog noise and static are virtually eliminated, and your calls cannot be overheard. Exclusive Autoscan automatically searches among 23 channels for the clearest signal.

Manage your calls from anywhere with state-of-the-art features: Hands-free intercom with 2-way page/find. 20-number memory, plus 3 one-touch numbers. Out-of-range alert. Illuminated keypad with mute, hold, flash, and call monitor. Comes with deluxe 7-day battery and standby battery recharge system. Wall mountable. Imported. One-year warranty.

Move beyond the limitations of your present cordless phone—with the farthest-reaching digital technology. Free !

Spread Spectrum 900 MHz Telephone

One-line **$349.95** (9.00) #EX910
Two-line **$449.95** (9.00) #EX920
Additional 7-Day Battery **$ 24.95** (4.00) #EX911

Wireless entertainment takes a *leap* in performance!

Now, new technology sweeps away the barriers to enjoying music and video *anywhere* in your home. These advanced Recoton wireless systems transmit over new 900MHz radio frequencies for outstanding performance. Best of all, the wireless signals easily travel through walls and floors.

Send a VCR or cable signal to any TV in your house. Operate remote-controlled devices from *another* room. Enjoy outstanding stereo in the bedroom from your living room rack system. Even listen to a private concert as you sit out on the deck. All without unsightly wires or the limitations of walls.

Private listening's new freedom. ▶

Now you can experience a private concert or TV sound — anywhere you move in or around your home. Powered by rechargeable batteries (included), Recoton's wireless headphones deliver dramatic stereo over a 150 foot range. Compact 900MHz transmitter (see below, included) connects to any sound source. Great for watching late-night TV in bed, following aerobic routines on TV, or lounging outdoors — without disturbing anyone around you. 90-day warranty. Free !

S Wireless Headphone Set $129.95
(7.00) #YB303

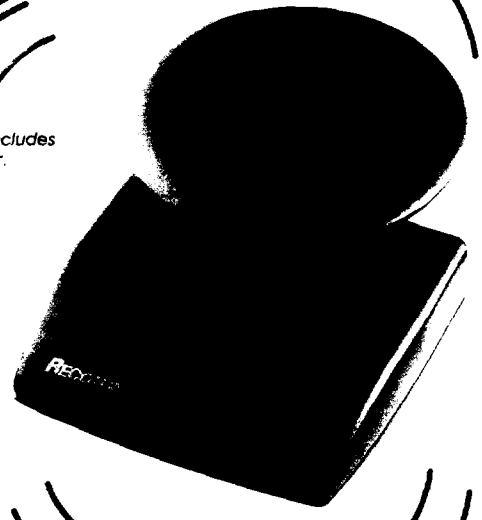
Wireless Headphone Set includes transmitter and headphones.

Wireless Television Set includes transmitter and receiver.

▲ Video in every room. Without wires.

Now watch movies or cable in your bedroom — from your living room VCR or cable box. Recoton's wireless system sends high-quality video and sound throughout your home (up to 150 feet) over a stable 900MHz signal. AC-powered transmitter and receiver hook up to any TV, VCR, cable box, laser disc player, satellite box, etc. 90-day warranty. Free !

S Wireless Television Set $99.95
(7.00) #YB301



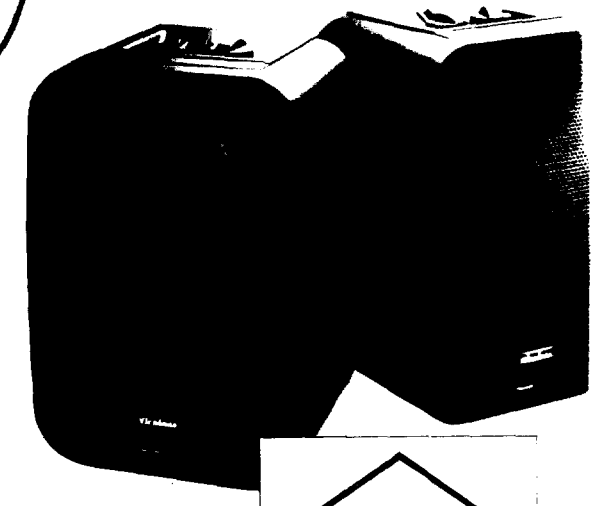
The transmitter is included with all four Recoton sets you see here.

Wireless stereo speakers move to static-free 900MHz. ▼

Now enjoy superb stereo in your bedroom, den, or kitchen — even when your stereo is located in the living room. Without ugly wiring, you can add a pair of speakers anywhere in your home. The compact Recoton transmitter connects to any sound source and broadcasts up to 150 feet. Two-way speakers (2" tweeter, 4" woofer) have built-in 20 watt amplifiers with bass boost and volume control. Place in the same room with your current speakers for great surround sound. 9H". Each speaker plugs into a wall outlet. 90-day warranty. Free !

S Wireless Bookshelf Speakers Set $249.95
(12.00) #YB302

Bookshelf Set includes two speakers and transmitter.

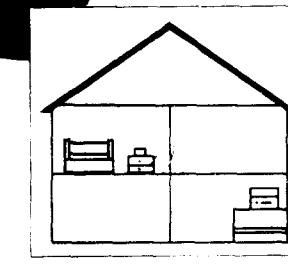


Portable set includes transmitter and belt-clip receiver plus speakers, headphones, and cables.

◀ Escape the wires. And *power cords*.

Recoton's all-in-one portable set lets you enjoy stereo or TV sound over a 150' range. Simply plug the lightweight headphones into the battery-powered belt-clip receiver (requires 3 AA batteries). Or connect the amplified speakers to the same receiver for room-filling stereo. (Speakers can also be plugged into your personal stereo.) 5H" speakers require 2 AA batteries each. One-year warranty. Free !

S Wireless Portable Speakers/Headphone Set $119.95 (6.00)
#YB307



RF waves pass through walls, floors, and ceilings to bring you stereo or video anywhere in or around your home.

Don't write it. Voice It .

Before that good idea or phone number slips away, note it down quickly on the Voice It™ recorder. Just press the record button and start speaking. The solid-state memory records 6–8 messages or a spoken list of about 40 items. You can also use it to leave messages *for others* — alerting them with a flashing LED. Included attachments secure Voice It to a refrigerator, clothing, belt, or car visor. Simple operation: two buttons scan forward or reverse. Does not record over old messages until you erase them singly or all at once. The size of a credit card and just ½" thin. Batteries included. 90-day warranty. See why this new memory tool is called "the world's fastest memo pad." Free 800!

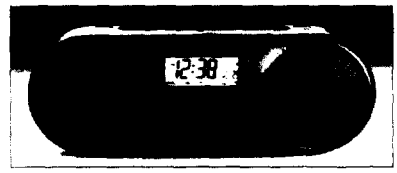
S Voice It™ $79.95 (5.00) #AB100

To order, call 24 hours a day

1-800-344-4444

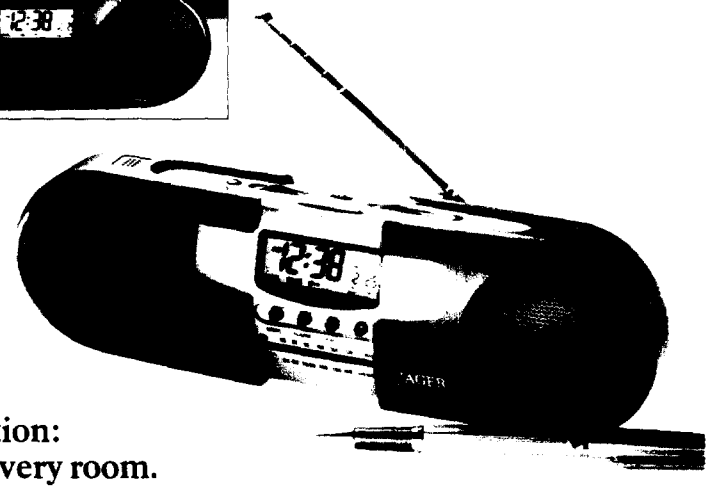
800 is no extra charge!

Big digit AM/FM dual time dynamo.



Handsome on your desk or nightstand, this compact new Jäger travel radio clicks open to reveal the controls. Then closes, so all you see is the sleek silhouette and large dual-time display with day/date calendar. Despite the small size (only 8L × 3H × 1¾D"), it delivers pleasingly crisp AM and FM *stereo* through twin speakers. And offers all the essentials for bedside use: fall-asleep-to-radio timer, radio/buzzer alarm, snooze button, dial light with delayed switch off, and easy time-setting controls. Also has fold-out stand, jack for stereo headphones, and CD/cassette input jack (turns it into an external speaker for your walkabout stereo). Requires 2 AA batteries and included clock battery. Jack for AC adapter (not included). One-year warranty. Free 800!

S Jäger Dual-Time Radio $59.95 (4.50) #JH400



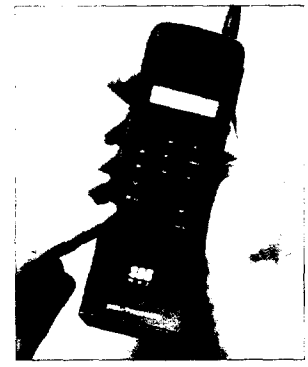
Newest 900 MHz cordless revolution: Ultra compact, and a handset in every room.

The handset is so small, it fits in your shirt pocket! New Flip Phone brings you the state-of-the-art sound and extended range of the latest 900 MHz cordless technology. In a size that makes it much more convenient to carry and use. Exclusive Full Dimensional Sound™ circuitry assures true sound clarity. And a microprocessor automatically scans among *40 channels* for the clearest sound at all times.

The cordless that serves as a phone system.

The innovative base station can handle up to four handsets—each identified by its own unique name (such as "den") or number. By ordering additional handsets for the bedroom, workshop, garage, etc., you can create a whole house or office phone system. A *cord-free* system that doesn't limit you just to rooms with phone jacks.

Each handset can be set to ring with your choice of 8 distinctive built-in tones. You can even transfer calls between handsets.



Memory dialing, music on hold, and more.

To answer or dial a call, just flip open the keypad cover. You can scroll through up to 20 stored names and numbers on the handset LCD, then speed dial them at a touch. You have music on hold, plus two-way intercom/paging between the base and handset. Call blocking lets you prevent outgoing calls—activated at the handset or base.

Also has last number redial, out-of-range warning, low-battery indicator, high/low/off ringer, and adjustable handset volume. Your secret code locks all settings. The base has an extra slot for charging a spare battery pack (order below). Handset measures just 5¾"L × 2"W × 1"D". Includes base, one handset with battery pack, and one-year warranty.

Discover the smallest 900 MHz cordless that gives you the most in sound quality, convenience, and expandability. Free 800!

S 900 MHz Flip Phone	**$349.95**	(9.00) #FW900
☎ Additional Handset with Charger	**$239.95**	(7.00) #FW901
☎ Additional Battery	**$ 19.95**	(4.00) #FX902

Attachment C

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Before the
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Washington, D.C. 20554

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MAR 29 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of	)	
	)	
Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems	)	PR Docket No. 93-61
	)	
	)	RM-8013

To: The Commission

FURTHER REPLY COMMENTS OF MOBILEVISION, L.P.

John J. McDonnell
Marnie K. Sarver
Matthew J. Harthun

REED SMITH SHAW & McCLAY
1200 18th Street, N.W.
Washington, D.C. 20036
(202) 457-6100

March 29, 1994

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information is transmitted on the location burst. In direct sequence spread spectrum location systems, the length of a code sequence is known as an "epoch." The duration of the transmitted location pulse usually consists of several epochs, which can be considered as "information bits" (even if no information is actually sent). The TIA paper considered only the accuracy of a single epoch and not the total duration of a location pulse, which averages the timing errors of a number of epochs. In fact, doubling the bandwidth increases the location capacity fourfold; provided that the received signal is above the threshold. The relationship between bandwidth and capacity (both location and information) is discussed in Annex 1 hereto. Discussions between MobileVision engineers and Dr. Padgett, the author of the TIA paper, have taken place and he is in agreement with the comments contained in Annex 1 hereto. A full technical analysis is given in Annex 2 hereto, "Basic Relationships Concerning Location Using Direct Sequence Spread Spectrum." The relationship between bandwidth, location and information capacity is complex, but a 4 MHz band can result in on-fourth of the location capacity and half of the information capacity of an 8 MHz band.

Similarly, MobileVision's Further Comments (including Annex 4 thereof) have already addressed the inefficiencies and lack of capacity that will result if two side-by-side 4 MHz bands were established for LMS systems. Of course, the feasibility for Southwestern Bell to operate on such a system must be understood in conjunction with its affiliation with a cellular provider and its intentions to provide LMS as an adjunct to cellular services.

III. THE CONCERNS OF PART 15 USERS ARE ADDRESSED ADEQUATELY IN THE MOBILEVISION PROPOSALS AND SHOULD NOT, IN ANY CASE, DOMINATE THE DIRECTION OF THIS RULEMAKING.

The proliferation of Part 15 devices within the spectrum allocated for LMS services, both wideband and narrowband, is undeniable. These devices, however, vary significantly

in power usage and operating conditions: many are used in applications that will neither cause nor be affected by interference in relation to the operation of LMS systems; others will undoubtedly not be able to coexist on the same frequencies with such systems. All Part 15 applications within the 902-928 MHz spectrum share one common attribute -- their secondary status to LMS systems in the band.

This is not to say that the concerns of their representatives should go unrecognized. MobileVision has proposed several revisions to the present Interim Rules and the proposals contained in the NPRM that reflect those concerns. While maintaining the presence of Part 15 users throughout the spectrum, these proposals would establish 10 MHz of bandwidth that will act as a safe haven for Part 15 users from the interference of wideband systems, establish tolerance levels to permit Part 15 use throughout the balance of the spectrum where wideband systems will exist and the use of Part 15 will remain secondary,[32] and require that wideband LMS providers who find that currently existing Part 15 installations above that tolerance level interfere with their licensed use defray the reasonable costs of moving such Part 15 users.

Counter to these proposals to establish the maximum usage of the spectrum and to recognize that, where possible, a balancing of competing interests in the spectrum is appropriate, are the radical positions of certain representatives of the Part 15 community who present the issues for the Commission in overly-simplistic terms: them or us. The radical proponents of this cause would ignore completely the existence of the current long-standing regulatory framework. Indeed, certain of these proponents now employ the

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32 Annex 2 of MobileVision's Further Comments sets forth initial calculations of an Interference Analysis of Part 15 Devices and wideband LMS systems. Unfortunately, as of the date of these Further Reply Comments, other wideband LMS system providers have provided no further input as to the appropriateness of the tolerance level for Part 15 uses.

RF Spectrum Issues for Intelligent Vehicle Highway Systems

3 November 1993

Attachment D

Specific Spectrum Requirements

IVHS Functions versus Applicable Spectrum Regions (Communication Infrastructure)

IVHS Functions (27)	Spectrum Regions								
	220 MHz Band Radio	Commercial FM	Other Land Mobile Bands*	Cellular/ SMR	ISM	IR/ Microwave Beacons	LEOS	PCS	Higher Microwave Bands#
Travel Planning									
Pre-Trip Travel Information		X		X			X	X	
Ride Matching and Reservation		X		X			X	X	
Traveler Information									
En Route Driver Advisory	X	X	X			X			X
En Route Transit Advisory	X	X	X			X			X
Traveler Services Information				X		X		X	
Route Guidance	X	X	X			X			
Travel Management									
Incident Management	X	X	X	X		X	X	X	
Travel Demand Management		X							X
Traffic Control	X		X			X			X
Public Transportation Management	X		X	X		X	X	X	
Personalized Public Transportation	X	X	X	X			X	X	
Travel Payment									
Electronic Payment Services					X	X			X

Specific Spectrum Requirements (concluded)

IVHS Functions versus Applicable Spectrum Regions (Communication Infrastructure)

IVHS Functions	Spectrum Regions								
	220 MHz Band Radio	Commercial FM	Other Land Mobile Bands*	Cellular/ SMR	ISM	IR/ Microwave Beacons	LEOS	PCS	Higher Microwave Bands#
Advanced Vehicle Control Systems									
Longitudinal Collision Avoidance									X
Lateral Collision Avoidance									X
Intersection Crash Warning and Control	X		X		X				X
Vision Enhancement for Crash Avoidance						X+			
Imapairment Alert									
Pre-Crash Restraint Deployment									
Fully Automated Vehicle Operation									X
Commercial Vehicle Operations									
Commercial Vehicle Preclearance					X	X			X
Automated Roadside Safety Inspections					X	X			X
Commercial Vehicle Administrative Processes					X	X			X
On-Board Safety Monitoring	X		X		X	X			X
Commercial Fleet Management	X	X	X	X			X	X	
Emergency Management									
Emergency Notification & Personal Security	X	X	X	X			X	X	
Public Travel Security	X		X	X			X	X	
Emergency Vehicle Management	X		X	X			X	X	

*IVHS Dedicated Frequencies

#Microwave Bands in 5.8/60/77 GHz Range (Other Than Beacons)

+IR Image Capture and Headsup Display